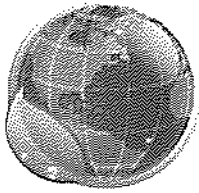


**EPA Reg. No. 88951-2**



**Sherri Gray | Environmental Consulting**

I N C O R P O R A T E D

15616 Plain Dealing Place  
Manassas, VA 20112  
phone: 703-628-8968  
fax: 267-219-2093  
[www.epaconsultant.net](http://www.epaconsultant.net)

July 29, 2013

Marshall Swindell  
Antimicrobials Division, PM 33  
U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504P)  
Document Processing Desk  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202

Subject: PanaX 500™ 25 (EPA Registration Number 88951-1)  
PanaX 500™ 50 (EPA Registration Number 88951-2)  
EPA Letter Stating Subject Products are Formaldehyde Free and Glyoxal Free

Dear Mr. Swindell:

On behalf of our client, Pan Asian Chemicals Inc. (EPA Company Number 88951), we are submitting this letter in support of the subject EPA registrations, which contain the active ingredient glutaraldehyde. There are other glutaraldehyde manufacturers who are making the claim that their products are the only glutaraldehyde products manufactured that contain no formaldehyde or glyoxal.

Pan Asian Chemicals Inc. seeks to counter these glutaraldehyde manufacturers' claims, based on previously submitted and EPA reviewed information in support of the subject products.

Pan Asian Chemicals Inc. is requesting that EPA respond to this letter, following the review of the subject products' information on file with the EPA, with a formal letter stating that the subject products do not contain formaldehyde or glyoxal.

If you have any questions or require additional information, please do not hesitate to contact me at (703) 628-8968 or [sherrigray@epaconsultant.net](mailto:sherrigray@epaconsultant.net).

Sincerely,

Sherri Gray  
President  
Sherri Gray Environmental Consulting



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Sherri Gray, President  
Sherri Gray Consulting  
15616 Plain Dealing Place  
Manassas, VA 20112

JUL 31 2013

Subject: Concentrations of Formaldehyde and Glyoxal in Glutaraldehyde Products  
Product Names: PanX 500™ 25 and PanX 500™ 50  
EPA Registration Numbers: 88951-1 and 88951-2

Dear Ms. Gray,

After review of your request by our chemist, the agency has come to the following conclusions:

- No formaldehyde or glyoxal are added as part of the starting materials or there are no formaldehyde or glyoxal impurities in the starting materials of subject registrations.
- The typical (production method) reactions producing the glutaraldehyde are not known to produce formaldehyde or glyoxal as by-products.
- Glutaraldehyde does not typically breakdown; rather it reacts /forms chemical bonds with one of the compounds including itself, forming polymeric glutaraldehyde.
- It is highly unlikely, if present in either of these products, that the concentration of formaldehyde or glyoxal would be greater than or equal to 0.1%.

If you have any questions concerning this letter, please contact Amaris Johnson at (703) 305-9542.

Sincerely,

A handwritten signature in cursive script, appearing to read "M. Swindell".

Marshall Swindell  
Product Manager 33  
Regulatory Management Branch 1  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

## NEW APPLICATIONS

DATE: 6-4-2012

FILE NUMBER: 88951-E

FEP (OPPIN ENTRY) LV JUN - 5 2012  
(Initial & date)

FILE ROOM: \_\_\_\_\_  
(Initial & date)

SIG: \_\_\_\_\_  
(Initial & date)

FILE ROOM: \_\_\_\_\_  
(Initial & date)

✓ ASSIGN TO PM 33 (NO DATA)

\_\_\_\_ JACKET TO SHELF (DATA)

DECISION PKG. NO. 465653  
SUBMISSION BAR CODE # 917974

12/15/12  
SUBM. DUE DATE 10/25/12  
REVIEWER MT

CODING FORM FOR APPLICATIONS FOR REGISTRATION/AMENDMENT

FILE SYMBOL/REG NO. 88951-E PM 33 ACTION CODE A-532 PRIA  
DESCRIPTOR New PriA Application FQPA NFQPA

☐ CHILD RESISTANT PACKAGING: ☐ REQUIRED ☐ NOT REQUIRED  
REGISTRATION TYPE: ☐ CONDITIONAL ☐ UNCONDITIONAL ☐ RESTRICTED USE

DATE ON APPLICATION

05-07-12

EPA RECEIVE DATE

06-04-12

PM RECEIVE DATE

06106 12

METHOD OF SUPPORT

☐ CITE-ALL ☐ SELECTIVE  
☐ NOT SUBMITTED ☐ N/A

FORMULATORS EXEMPTION

☐ SUBMITTED ☐ NOT SUBMITTED  
☐ N/A

REVIEW(S) REQUESTED

DATA  
PACK #

DATE  
SENT

DUE  
DATE

DATE  
RETURNED

CHEMISTRY \_\_\_\_\_

EFFICACY \_\_\_\_\_

ACUTE TOX. \_\_\_\_\_

RASSE TOX. \_\_\_\_\_

ENVIRON. FATE \_\_\_\_\_

FISH/WILDLIFE \_\_\_\_\_

OTHER: \_\_\_\_\_

STATUS \_\_\_\_\_

RESPONSE CODE 1150

DEC 12 2012  
RESPONSE DATE \_\_\_\_\_



U.S. ENVIRONMENTAL PROTECTION  
AGENCY

Office of Pesticide Programs  
Antimicrobials Division (7510C)  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

NOTICE OF PESTICIDE:

☒ Registration  
☐ Reregistration

(under FIFRA, as amended)

EPA Reg.

Number:

88951-2

Date of

Issuance:

DEC 12 2012

Term of Issuance:

**Conditional**

Name of Pesticide Product:

Panax 500™ 50

Name and Address of Registrant (include ZIP Code):

Pan Asian Chemicals Inc.  
3040 Post Oak Blvd., #1050  
Houston, TX 77056

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for re-registration of your product under FIFRA section 4.

2. Make the labeling changes listed below before you release the product for shipment:

a. Revise the "EPA Registration Number to read, "EPA Reg. No. 88951--2".

Signature of Approving Official:

Marshall Swindell  
Product Manager Team-33  
Regulatory Management Branch  
Antimicrobials Division (7510P)

Date:

DEC 12 2012

b. Submit the product Storage Stability and Corrosion Characteristics study within one (1) year from the date of this Notice of Registration.

c. Submit two (2) copies of your final printed labeling before distributing or selling the product bearing the revised labeling.

3. The Confidential Statement of Formula dated October 23, 2012, for the basic formulation is acceptable. Refer to the enclosed copy of the Product Chemistry Review for further comments.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the "accepted" label is enclosed for your records.

If you have any questions concerning this letter, please contact Martha Terry at (703) 308-6217.

Sincerely,

A handwritten signature in cursive script, appearing to read "M. Swindell", is written over the typed name.

Marshall Swindell  
Product Manager 33  
Regulatory Management Branch I  
Antimicrobials Division (7510P)

Enclosures

**PRECAUTIONARY STATEMENTS  
HAZARD TO HUMANS AND DOMESTIC ANIMALS**

**DANGER**

**KEEP OUT OF REACH OF CHILDREN**

Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if inhaled. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish, aquatic invertebrates, oysters and shrimp. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

**PHYSICAL OR CHEMICAL HAZARDS**

**FLAMMABLE.** Keep away from heat and flame.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. PanaX 500™ 50 Industrial Bactericide is especially recommended for controlling sulfate reducing bacteria in water to be used for polymer treated water-flood programs. PanaX 500™ 50 Industrial Bactericide does not interfere with the viscosity characteristics of the polymer agent. PanaX 500™ 50 Industrial Bactericide may be applied in systems used to treat injection water immediately ahead of water de-oiling equipment such as an air flotation unit in the clear water holding tank or at the suction side of the injection pump. PanaX 500™ 50 Industrial Bactericide should be used full strength in concentrations of 30 ppm of PanaX 500™ 50 Industrial Bactericide on a continuous basis or in slug applications to 5,000 ppm of PanaX 500™ 50 Industrial Bactericide or higher concentrations as needed [1/4 pint per 1,000 gallons equals approximately 30 ppm]. A typical slug application is one quart per 1,000 gallons.

**STORAGE AND HANDLING**

Container: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substance. Refrigeration has been recommended.

**LIMITED WARRANTY AND DISCLAIMER**

Seller warrants that the product conforms to its chemical description as contained on this label and is reasonably fit for the purposes stated on this label when used in accordance with directions under normal conditions of use. THE WARRANTIES MADE IN THIS PARAGRAPH ARE SELLER'S SOLE WARRANTIES WITH RESPECT TO THE PRODUCT AND ARE MADE EXPRESSLY IN LIEU OF AND EXCLUDE ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES.

**STORAGE AND DISPOSAL**

*Do not contaminate water, food, or feed by storage or disposal.*

**STORAGE:** Do not pour, spill or store near heat or open flame.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticides, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or your Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal: empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full of water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat the rinsing procedure two more times.

**PanaX 500™ 50**

**Industrial Bactericide**

**FOR USE IN INDUSTRIAL PROCESSES ONLY:**

**NOT FOR DOMESTIC USE.**

ACTIVE INGREDIENT:

Glutaraldehyde..... 50.0%

INERT INGREDIENTS:..... 50.0%

TOTAL:..... 100.0%

NET CONTENTS: Bulk, Drum or As Marked on Container

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**

**FIRST AID**

IF SWALLOWED:	<ul style="list-style-type: none"><li>• Call a poison control center or a doctor immediately for treatment advice.</li><li>• DO NOT INDUCE VOMITING.</li><li>• Do not give anything to drink.</li></ul>
IF IN EYES:	<ul style="list-style-type: none"><li>• Wash immediately and continuously with flowing water for at least 30 minutes.</li><li>• Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.</li><li>• Call a poison control center or a doctor immediately for treatment advice.</li></ul>
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or a doctor for treatment advice.</li></ul>
IF INHALED:	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.</li><li>• Call a poison control center or a doctor for further treatment advice.</li></ul>
NOTE TO PHYSICIAN:	Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.
Have the MSDS and, if available, the product container or label with you when calling a poison control center or a doctor, or going for treatment.	
IN CASE OF EMERGENCY:	Endangering life or property involving this product, call collect: (989) 636-4400

EPA Registration Number ..... 88951-E

EPA Establishment Number .....

**PAN ASIAN CHEMICALS INC.**

**3040 POST OAK BLVD.# 1050**

**HOUSTON, TEXAS 77056**

**EMERGENCY CONTACT (24 HOURS PER DAY) 1-800-424-9300**



## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

ACCEPTED  
WITH COMMENTS  
in EPA Ltr. 12-12-12  
DEC 12 2012

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, the use of this product is restricted to counteract any system leakage.

### AIR WASHERS AND INDUSTRIAL SCAUBING SYSTEMS/ RECIRCULATING COOLING AND PROCESS WATER SYSTEMS:

This product may be used only in industrial air washer and air washer systems which have mist-eliminating components. Panax 500™ 50 should be added at the application rates described below to a water treatment system at a convenient point of uniform mixing such as the basin area. Addition may be made intermittently (SLUG DOSE) or continuously. Badly fouled system may be shock treated with Panax 500™ 50. Under these conditions, blowdown should be discontinued for up to 14 hours. Panax 500™ 50 can be used in industrial process water systems that contain ultra-filtration units and non-medical reverse osmosis membranes (where approved for compatibility by the membrane manufacturer) and associated distribution systems.

#### INTERMITTENT (SLUG DOSE) METHOD

Initial dose: When the system is noticeably fouled, apply 12 to 20 fluid ounces of Panax 500™ 50 per 1,000 gallons of water in the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 4.8 to 12 fluid ounces of Panax 500™ 50 per 1,000 gallons of water in the system weekly, or as needed to maintain control. Badly fouled system must be cleaned before treatment is begun.

#### CONTINUOUS FEED METHOD

Initial dose: When the system is noticeably fouled, apply 12 to 24 fluid ounces of Panax 500™ 50 per 1,000 gallons of water in the system.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2.4 to 12 fluid ounces of Panax 500™ 50 per 1,000 gallons of water in the system per day. Badly fouled system must be cleaned before treatment is begun.

### SERVICE WATER AND AUXILIARY SYSTEMS

Panax 500™ 50 should be used at the same application rates, and in the same manner as described above. It should be added to the system at a point that will allow for uniform mixing throughout the system.

### HEAT TRANSFER SYSTEMS

(Evaporative Condensers, Dairy Sweetwater Systems, Hydrostatic Sterilizers and Retorts, and Pasteurizers and Warmers) Panax 500™ 50 should be used at the same application rates, and in the same manner as described above. It should be added to the system as a point of uniform mixing such as a basin area, sump area, or other reservoir or collection area from which the treated water will be circulated uniformly throughout the system.

### INDUSTRIAL WASTEWATER SYSTEMS:

(Wastewater system, wastewater sludge and wastewater holding tanks)

Panax 500™ 50 should be added to a wastewater system or sludge at a convenient point of uniform mixing such as the digester. Add 10.8 to 50 fluid ounces (30.63 pints to 3.4 quarts (900 to 4,500 ppm) Panax 500™ 50 per 100 gallons of wastewater or sludge.

### PAPER MILLS AND PAPER MILL PROCESS WATER SYSTEMS

Panax 500™ 50 should be added to the paper making system at a point of uniform mixing such as the beaters, broke chest pump, save-all tank, or white water tank.

Initial Dose: When the system is noticeably contaminated, add 1.0 to 6.0 lbs. of Panax 500™ 50 per ton of pulp or paper (dry basis) as a slug dose. Repeat until control is achieved. Heavily fouled systems should be boiled out prior to initial treatment.

Subsequent Dose: When microbial control is evident, add 0.6 to 4.0 lbs. of Panax 500™ 50 per ton of pulp or paper (dry basis) as a slug dose as necessary to maintain control.

### PIGMENTS AND FILLER SLURRIES FOR PAPER AND PAPERBOARD

(For use in food and non-food contact pigments and filler slurries) Use from 0.2 to 1.2 lbs. of Panax 500™ 50 per 1,000 lbs. dry powder to produce a concentration of 200 to 1,200 ppm as product (based on slurry solids) in the mixed slurry.

### WATER BASE COATINGS

NOTE: For use in non-food contact coatings only. Use from 0.2 to 1.2 lbs. of Panax 500™ 50 per 1,000 lbs. dry powder to produce a concentration of 200 to 1,200 ppm as product (based on slurry solids) in the mixed slurry.

### AQUEOUS METAL WORKING FLUIDS

Panax 500™ 50 should be added to a metal working fluid system at a point of uniform mixing such as the fluid collection tank. Additions may be made intermittently (SLUG DOSE) at intervals of one week or less.

Initial Dose: When the system is noticeably fouled apply 2.4 to 7.2 fluid ounces (100 to 300 ppm active) of Panax 500™ 50 per 100 gallons of metal working fluid to the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident add 0.95 to 4.8 fluid ounces (40 to 200 ppm active) of Panax 500™ 50 per 100 gallons of metal working fluid to the system weekly, or as needed to maintain control. Badly fouled system should be cleaned before treatment is begun.

### WATER BASE CONVEYOR LUBRICANTS

(Brewery, Tulle, Dairy, Beverage, and Food Processing Systems)

Avoid contamination of food in application of product. Thoroughly clean all tracks and conveyors to remove gross soil. Rinse well. Use an automatic feed system to provide 1.2 to 7.2 fluid ounces (50 to 300 ppm active) of Panax 500™ 50 per 100 gallons of diluted lubricant.

### GENERAL PRESERVATIVE USE

Panax 500™ 50 is recommended for use in aqueous water containing products and systems, including industrial, institutional and consumer in can processes and products, to control the growth of bacteria and fungi. For effective preservation, add Panax 500™ 50 to the product formulation at a rate of 0.04% to 0.4% based on the water content of the product (0.4 to 4.0 lbs Panax 500™ 50 per 1,000 lbs water content. Mix uniformly.

### PRESERVATIVE FOR CONCENTRATES

For use in concentrates where effective preservation is needed after dilution, add Panax 500™ 50 to the product formulation at a rate such that the diluted end-use product will contain 0.04% to 0.4% Panax 500™ 50. At no time during the preservation process should the level of Panax 500™ 50 exceed 6.6%.

### REVERSE OSMOSIS MEMBRANES

For effective preservation of reverse osmosis elements (where approved for compatibility by the membrane manufacturer) add Panax 500™ 50 to the tank containing 0.4% to 4.0% Panax 500™ 50. Panax 500™ 50 can also be added to a line for circulating systems for preservation. Do not install out-of-service reverse osmosis equipment (where approved for compatibility by membrane manufacturer). Add 0.4 to 4.0% Panax 500™ 50 to the tank in the circulating system. Maintain the concentration of Panax 500™ 50 by periodic additions to counteract any system leakage.

### CONCRETE ADMIXTURES

For effective preservation of concrete admixtures, add Panax 500™ 50 to the product formulation at a rate of 4,000 to 16,000 ppm based on the weight of the admixture (0.0 to 16.0 lbs. Panax 500™ 50 per 1,000 concrete admixture. Mix uniformly.

### WATER FLOODS

Panax 500™ 50 should be added to a water flood system at a point of uniform mixing.

Initial Treatment: When the system is noticeably contaminated, add 200 to 10,000 ppm Panax 500™ 50 to the system (0.2 to 9.4 gallons Panax 500™ 50 per 1,000 flood water). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 40 to 10,000 ppm Panax 500™ 50 (0.04 to 9.4 gallons Panax 500™ 50 per 1,000 gallon flood water) to the system weekly, or as needed to maintain control.

### FRAC FLUIDS

Product not registered for this use in the State of California

Panax 500™ 50 reduces bacterial contamination and degradation of fracturing fluid and gel used in oil and gas well stimulation. Add Panax 500™ 50 to the frac water storage tank or directly into the well head injection pipeline as the water is being pumped down-hole.

Dose Range: Panax 500™ 50 should be added at a rate of 200 to 10,000 bbl/mf (1.9-94 gallons per 20,000 gallons) depending on the degree of bacterial fouling in the source water.

### DRILLING, COMPLETION, AND WORKOVER FLUIDS

Panax 500™ 50 should be added to a drilling fluid system at a point of uniform mixing such as the circulating mud tank.

Initial treatment: Add 100 to 2,000 ppm Panax 500™ 50 (0.4 to 7.9 gallons Panax 500™ 50 per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination.

Maintenance dosage: Maintain a concentration of 100 to 2,000 ppm Panax 500™ 50 by adding 0.4 to 7.9 gallons of Panax 500™ 50 per 100 barrels of additional fluid, or as needed, depending on the severity of contamination.

### PACKER FLUIDS

Panax 500™ 50 should be added to a packer fluid at a point of uniform mixing such as a circulating holding tank. Add 100 to 1,200 ppm Panax 500™ 50 (0.4 to 4.7 gallons Panax 500™ 50 per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination. Seal the treated packer fluid in the well between the casing and production tube.

### OIL PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS

Product not registered for this use in the State of California

Panax 500™ 50 should be added to an oil production or transmission line via direct injection. The application should be conducted to ensure maximum distribution of Panax 500™ 50 throughout the entire internal pipeline surface by adding a sufficient amount of biocide to detect/measure a residual concentration at the back end of the bidline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it may be desirable to dilute the Panax 500™ 50 with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 500 to 5,000 ppm based on the volume of water in the pipeline. Injections to the system should be weekly or as needed to maintain control.

### GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS

Product not registered for this use in the State of California

Panax 500™ 50 should be added to a gas production or transmission line via direct injection. The application should be conducted to ensure maximum distribution of Panax 500™ 50 throughout the entire internal pipeline surface by adding a sufficient amount of biocide to detect/measure a residual concentration at the back end of the pipeline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it may be desirable to dilute the Panax 500™ 50 with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 500 to 5,000 ppm based on the volume of water in the pipeline. Injections to the system should be weekly or as needed to maintain control.

### GAS STORAGE WELLS AND SYSTEMS

Individual injection well should be treated with sufficient quantity of Panax 500™ 50 to produce a concentration of 1,000 to 10,000 ppm Panax 500™ 50 when diluted by the water present in the formation. Injection should take place before gas is injected (during the summer). Injection should be repeated yearly, or as needed to maintain control. Individual drips should be treated with a sufficient quantity of Panax 500™ 50 to produce a concentration of 400 to 4,000 ppm Panax 500™ 50 when diluted by the water present in the drip. Injections should be repeated yearly, or as needed to maintain control.

### HYDROTREATING

Water used in hydro-treat pipelines or vessels should contain 200 to 8,000 ppm Panax 500™ 50 (0.2 to 7.5 gallons Panax 500™ 50 per 1,000 gallons water), depending on water quality and length of time the equipment will remain idle.

### PIPELINE PIGGING AND SCRAPING OPERATIONS

Add Panax 500™ 50 to a slug of water immediately following the scraper (ideally this water volume can be kept to a minimum and contained between the scraper and a trailing pig). Sufficient Panax 500™ 50 should be added to produce a concentration of 0.2 to 2.0% (0.2 to 1.9 gallons Panax 500™ 50 per 100 gallons water), depending on the length of the pipeline and the severity of biofouling.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



United States  
Environmental Protection  
Agency

Office of Pesticide Programs

Antimicrobials Division (AD)

October 24, 2012

EPA Reg#: 88951-E		DP Barcode: 403598	
		Submission #: 917974	
Product name: Panax 500™ 50		Registrant: Pan Asian Chemicals, Inc.	
Reviewer's name: Juan F. Negrón		AD/PSB/CTT- Product Chemistry Review	
Agency due date: 12/15/12		PSB received date: 07/17/12	
CTT received date: 07/12/12		Science due date: 09/26/12	
Formulation type: TGAI ; MUP X ; EUP			
Integrated system: <input checked="" type="checkbox"/>		Non integrated system: <input type="checkbox"/> Food use: <input type="checkbox"/> Non food use: <input checked="" type="checkbox"/>	
Action Code: A532		Date Completed: 10/24/12	
PC Code	CAS #	Active Ingredient Name	% wt (label)
043901	111-30-8	Glutaraldehyde	50.0
Molecule structure (optional):			
Test Lab:			
MRID(s): 48852700, 48852701			
Approver: Karen P. Hicks		Approved date:	
Guideline: 830 Groups (A & B)			
Comments:			

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



United States  
Environmental Protection  
Agency


Office of Pesticide Programs

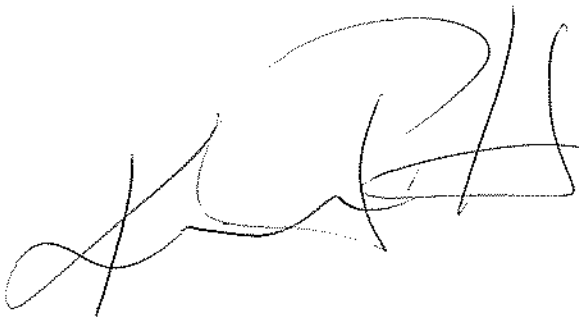
**Antimicrobials Division (AD)**

October 24, 2012

**MEMORANDUM**

**Subject:** Product Chemistry Review for EPA Reg # 88951-E.  
Product name: Panax 500™ 50  
DP #403598

**From:** Juan F. Negrón, Chemist   
Product Science Branch, CT Team  
Antimicrobials Division (7510P)

**Thru:** Karen P. Hicks, CT Team Leader  
Product Science Branch  
Antimicrobials Division (7510P) 

**To:** Marshall Swindell / Martha Terry  
PM Team 33

**APPLICANT:** Pan Asian Chemicals, Inc.

**Action code:** A532

**Due date:** 12/15/12

**Product Formulation**  
**Active Ingredient**

**% by wt.**

Glutaraldehyde 50.0

## **BACKGROUND:**

On behalf of the registrant, Pan Asian Chemicals, Inc., the consultant, Keller and Heckman, LLP, formally withdraw the registration application submitted on July 12, 2012, to register the product, Panax 500™ 50. The product claims to clean, disinfect, sanitize, control mold & mildew. The product is a non-integrated system end use product. The Product Chemistry Reviewer has reviewed the following documents:

- A letter, dated 05/07/12 MRID # 48852700.
- A draft label, pin punched on 07/12/12.
- Data matrix, dated 07/12/12.
- Confidential Statements of Formula (CSFs), dated 05/07/12 & 10/23/12, for the basic formulation.
- A study titled "Group A Product Chemistry for Panax 500™ 50" Volume 2, MRID # 48852701.
- Registrant submitted via email the following: "Test Methods of Glutaraldehyde," "General principles for sampling liquid chemical products," "General principles for sampling chemical products" and "Five batch of analysis."

## **FINDINGS:**

1. The OPPTS 830 Groups (A & B) guidelines have been met with the exception of the following: 830.6317 Storage Stability, & 830.6320 Corrosion Characteristics guidelines.
2. The CSF, dated 05/07/12, for the basic formulation is obsolete.
3. The CSF, dated 10/23/12, for the basic formulation is revised.
4. The CSF and the label have the same nominal concentration for the active ingredient (AI).
5. All certified limits meet the EPA Standard Certified Limits.
6. The me-too product, 464-691, is not similar to Panax 500™ 50.
7. The 830.1800 Enforcement Analytical Method section is incomplete. The method does not provide a step by step on how to conduct an assay and does not provide some of the standard references that are mentioned in the method. Some of the standard references are split throughout the document, MRID #48852601. However, the registrant provided a copy of the enforcement analytical method via email.

8. The registrant updated the preliminary analysis and the results are as follows:

Sample #	Glutaraldehyde %	Average meets the EPA Standard Certified Limits
1	50.3	Yes
2	50.5	Yes
3	50.2	Yes
4	50.6	Yes
5	50.4	Yes

**CONCLUSIONS:**

The CSF, dated 10/23/12, for the basic formulation is acceptable. The OPPTS 830 Groups (A & B) guidelines have been met with the exception of the following: 830.6317 Storage Stability & 830.6320 Corrosion Characteristics guidelines. The 830.6317 Storage Stability and 830.6320 Corrosion Characteristics are in progress.

## PRODUCT CHEMISTRY REVIEW

### I. CONFIDENTIAL STATEMENT OF FORMULA

#### a. Type of formulation and source registration:

- Non-integrated formulation system ☐
- Are all TGAIs used registered? Yes ☐ No ☐
- Integrated formulation system ☒
- If "ME-TOO," specify EPA Reg. No. of existing product: 464-691

#### b. Clearance of inerts for non-food:

Yes ☒ No ☐

#### c. Physical state of product:

*liquid*

#### d. The chemical IDs and analytical information (including that for the TGAIs), density, pH, and flammability are consistent with that given in 830 Series, Group B.

Yes ☒ No ☐

#### e. The NCs and CLs are acceptable.

Yes ☒ No ☐

#### f. Active ingredients

	<u>NC</u> (%)	<u>LCL</u> (%)	<u>UCL</u> (%)
--	------------------	-------------------	-------------------

Glutaraldehyde	50.0	48.5	51.5
----------------	------	------	------

#### g. For products produced by an integrated formulation system:

- Do all impurities of toxicological significance have a UCL?  
Yes ☐ No ☐ Not applicable ☒
- Have all impurities of  $\geq 0.1\%$  in the product been identified?  
Yes ☐ No ☐ Not applicable ☒

**\*Inert ingredient information may be entitled to confidential treatment\***

II PRODUCT LABEL

a. The active ingredient(s) statement (chemical IDs and NC) is consistent with the CONFIDENTIAL STATEMENT OF FORMULA. Yes ☒ No ☐

b. The formula contains one of the following:

- |  |   |  |
|--|---|--|
| • 10% or more of a petroleum distillate: | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| • 1.0% or more of [REDACTED]             | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/>            |
| • sodium nitrite at any level:           | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| • a toxic List 1 inert at any level:     | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |
| • arsenic in any form:                   | Yes <input type="checkbox"/>            | No <input checked="" type="checkbox"/> |

c. If "yes" to any of the above, does the inert ingredients statement contain a footnote indicating this? Yes ☐ No ☒ Not applicable ☐

d. Appropriate warning statement(s) regarding flammability or explosive characteristics of the product are listed on the label.

Yes ☐ No ☐ Not applicable ☒

e. The storage and disposal instructions for the pesticide container are in compliance with PR Notice 84-1 for household use products or PR Notice 83-3 for all other uses.

Yes ☐ No ☐

f. The product requires an expiration date at which time the NC falls below the LCL (based on the 1-year storage stability data or other information).

Yes ☐ No ☐

**The one year storage stability and corrosion characteristic studies will be submitted once the studies are concluded.**

**Table A:**  
**Product Chemistry (Series 830, Group A)**

<b>Data Requirements</b>	<b>Acceptance of Information</b>	<b>MRID No.</b>
830.1550 Product Identity <sup>1</sup>	A	48887101
830.1600 Description of Materials	A	48887101
830.1620 Production Process <sup>2</sup>	A	48887101
830.1650 Formulation Process <sup>3</sup>	A	48887101
830.1670 Formation of Impurities <sup>4</sup>	A	48887101
830.1700 Preliminary Analysis <sup>5</sup>	A (See copy)	
830.1750 Certified Limits <sup>6</sup>	A See CSF. The CSF shows that all certified limits meet the EPA Standard Certified Limits.	48887101
830.1800 Enforcement Analytical Method <sup>7</sup>	[The MRID reference to this guideline needs to be updated. See findings for more information.] A (The registrant updated the method.)	
830.1900 Submittal of Samples	Available upon request.	48887101

Explanation: A=acceptable; N=not acceptable (i.e., item was submitted but is not acceptable); NA=technically not applicable; NR= not required; G=data gap (i.e., item was not submitted but is required); U=requires upgrading (i.e., item is unacceptable but upgradeable); W=waived; E=EPA estimate.

<sup>1</sup>See Confidential Appendix A for additional information.

<sup>2</sup>For MP/EP products produced by an integrated formulation system.

<sup>3</sup>For products from a TGA1 or MP.

<sup>4</sup>May be waived unless actual/possible impurities are of toxicological concern.

<sup>5</sup>Five batch analysis required for products produced by an integrated formulation system.

<sup>6</sup>If different from standard CLs recommended in 40 CFR 158.175, this should be discussed in Confidential Appendix A.

<sup>7</sup>Thorough method used as follows: gas chromatography (GC), infrared (IR), ultraviolet absorption (UV), nuclear magnetic resonance (NMR), etc.



Table B:

## Physical and Chemical Characteristics (Series 830, Group B)

Physical/Chemical Properties*	Acceptance of Data	Value or Qualitative Description	MRID No.
830.6302 Color	NR	<i>[Not required for end-use products.] However, it has been reported as colorless.</i>	
830.6303 Physical State	A	Pale yellow liquid.	
830.6304 Odor	NR	<i>[Not required for end-use products.] However, it has been reported as sharp and pungent.</i>	
830.6313 Stability to Normal and Elevated Temperatures, Metals, and Metal Ions	NR	<i>[Not required for end-use products.]</i>	
830.6314 Oxidation/Reduction; Chemical Incompatibility	A	The product does not contain any oxidizing or reducing agents.	
830.6315 Flammability/Flame Extension	A	Product does not contain combustible materials.	
830.6316 Explodability	A	The product does not contain explosive materials.	
830.6317 Storage Stability	G	Submitted upon completion.	
830.6319 Miscibility	A	Product isn't an emulsifiable liquid diluted with a petroleum solvent.	
830.6320 Corrosion Characteristics	G	Submitted upon completion.	
830.6321 Dielectric Breakdown Voltage	A	Not to be used around electrical equipment.	
830.7000 pH	A	3.1 – 4.5 / 3.5	
830.7050 UV/Visible Absorption	NR	<i>[Not required for end-use products.]</i>	
830.7100 Viscosity	A	15.4 cps @ 25°C	
830.7200 Melting Point/Melting Range	NR	<i>[Not required for end-use products.]</i>	
830.7220 Boiling Point/Boiling Range	NR	<i>[Not required for end-use products.]</i>	
830.7300 Density/Relative Density/Bulk Density	A	1.06 g/ml.	
830.7370 Dissociation Constants in Water	NR	<i>[Not required for end-use products.]</i>	
830.7550/830.7560/830.7570 Partition Coefficient	NR	<i>[Not required for end-use products.]</i>	
830.7840/830.7860 Water Solubility	NR	<i>[Not required for end-use products.]</i>	
830.7950 Vapor Pressure	NR	<i>[Not required for end-use products.]</i>	

Explanation: A=acceptable; N=not acceptable; NA=technically not applicable; NR= not required; G=data gap.

\*Inert ingredient information may be entitled to confidential treatment\*

Sample No.	Available GLUT %			Average Meets the EPA Standard Certified Limits
1	50.3 %			Conforms
2	50.5%			Conforms
3	50.2%			Conforms
4	50.6%			Conforms
5	50.4%			Conforms



*Sherri Gray Environmental Consulting*  
*15616 Plain Dealing Place*  
*Manassas, VA 20112*  
*703-628-8968 (phone)*  
*267-219-2093 (fax)*

48852700

May 7, 2012

Marshall Swindell  
Antimicrobials Division, PM 33  
U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504P)  
Document Processing Desk (PRIA)  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202

Subject: PanaX 500™ 50  
EPA File Symbol Number 88951-E  
PRIA (A532)

Dear Mr. Swindell:

On behalf of our client Pan Asian Chemicals Inc. (3040 Post Oak Blvd., # 1050, Houston, TX 77056, EPA Company Number 88951), Sherri Gray Environmental Consulting is submitting a PRIA (A532) for review, for PanaX 500™ 50 (EPA File Symbol Number 88951-E). The following items are enclosed in support of this PRIA action:

- Application for Pesticide Registration, EPA 8570-1 Form;
- Certification with Respect to Citation of Data, EPA 8570-34 Form;
- Confidential Statement of Formula, EPA 8570-4 Form;
- Data Matrix, EPA 8570-35 Form;
- 48852701 • Product Chemistry Report;
- Copy of small business waiver;
- Copy of PRIA fee payment; and
- Product Label (5 copies).

If you have any questions, please contact me at (703) 628-8968 or [sherrigrayconsulting@gmail.com](mailto:sherrigrayconsulting@gmail.com).

Sincerely,

Sherri Gray  
Authorized Representative of  
Pan Asian Chemicals Inc.

Enclosures

cc: Michelle Moore, Pan Asian Chemicals Inc.



United States  
Environmental Protection Agency  
Washington, DC 20460

☒ Registration  
☐ Amendment  
☐ Other

OPP Identifier Number

## Application for Pesticide - Section I

1. Company/Product Number Pan Asian Chemicals Inc.	2. EPA Product Manager Marshall Swindell	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) PanaX 500™ 50	PM#	
5. Name and Address of Applicant (Include ZIP Code)  Pan Asian Chemicals Inc. 3040 Post Oak Blvd., # 1050, Houston, Texas 77056  <input checked="" type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. 464-691 Product Name UCARCIDE 250 Antimicrobial	

## Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input checked="" type="checkbox"/> "Me Too" Application.
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Submission of registration application for the product PanaX 500™ 50 (A532).

## Section - III

## 1. Material This Product Will Be Packaged In:

Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input checked="" type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container

3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container	4. Size(s) Retail Container 20 ft. ISO Tank	5. Location of Label Directions <input type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product
---	--	--

6. Manner in Which Label is Affixed to Product Glued	<input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled	<input checked="" type="checkbox"/> Other _____
---	---	---

## Section - IV

## 1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

Name Sherri Gray	Title Authorized Representative	Telephone No. (Include Area Code) 703-628-8968
---------------------	------------------------------------	---

## Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received  
(Stamped)

2. Signature 	3. Title Authorized Representative	6. Date Application Received (Stamped)
4. Typed Name Sherri Gray	5. Date May 7, 2012	



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

401 M Street, S.W.  
Washington, D.C. 20460

Form Approved OMB No. 2070-0060

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## DATA MATRIX

Date: May 7, 2012 EPA Reg No./File Symbol 88951-E Page 1 of 3

Applicant's/Registrant's Name &amp; Address:

Pan Asian Chemicals Inc.

3040 Post Oak Blvd.

# 1050

Houston, TX 77056

Product:

PanaX 500™ 50

Ingredient: Glutaraldehyde (Technical)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
<b>Product Chemistry</b>					
830.1550	Product Identity and composition	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1600	Description of materials	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1620	Description of production process	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1650	Description of formulation process	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1670	Discussion of formation of impurities	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1700	Preliminary analysis	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1750	Certified limits	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1800	Enforcement analytical method	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1900	Submittal of samples	48852701	Pan Asian Chemicals, Inc.	OWN	

**Acute Toxicology**

870.1100	Acute Oral Toxicity	00011706	Pan Asian Chemicals, Inc.	OLD	
870.1200	Acute Dermal Toxicity	44691606	Pan Asian Chemicals, Inc.	OLD	
870.1300	Acute Inhalation Toxicity	00060275	Pan Asian Chemicals, Inc.	OLD	
870.2400	Acute Eye Irritation	00117066	Pan Asian Chemicals, Inc.	OLD	
870.2500	Acute Dermal Irritation	00117061	Pan Asian Chemicals, Inc.	OLD	
870.2600	Skin Sensitization	43330201	Pan Asian Chemicals, Inc.	OLD	

Signature

Name and Title

Sherri Gray, Authorized Representative

Date

5/7/12



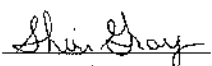
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## DATA MATRIX

Date: May 7, 2012		EPA Reg No./File Symbol 88951-E		Page 2 of 3	
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056		Product:  PanaX 500™ 50			
Ingredient: Glutaraldehyde (Technical)					
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Notes
<b>Ecological Effects</b>					
850.2200	Avian dietary toxicity	00117071	BASF Corporation	OLD	
850.2200	Avian dietary toxicity	00117072	BASF Corporation	OLD	
850.1035	Acute toxicity estuarine and marine organisms	00117073	BASF Corporation	OLD	
850.1400	Fish early life stage	00117074	BASF Corporation	OLD	
850.1010	Acute toxicity freshwater invertebrates	00117075	BASF Corporation	OLD	
850.1075	Freshwater fish toxicity	00117076	BASF Corporation	OLD	
850.1075	Freshwater fish toxicity	00117077	BASF Corporation	OLD	
<b>Mutagenicity</b>					
870.5100	Bacterial reverse mutation assay	43010201	Union Carbide	OLD	
870.5300	In vitro mammalian cell assay	42035301	Union Carbide	OLD	
870.5375					
870.5385	In vivo cytogenetics	42707301	Union Carbide	OLD	
870.5395					
Signature 			Name and Title Sherri Gray, Authorized Representative		Date 5/7/12



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## DATA MATRIX

Date: May 7, 2012	EPA Reg No./File Symbol 88951-E	Page 3 of 3
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056	Product:  PanaX 500™ 50	

Ingredient: Ghtaraldehyde (Technical)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Notes
<b>Environmental Fate</b>					
835.2120	Hydrolysis in aqueous solutions	41906201	Union Carbide	OLD	
835.2240	Photodegradation	42462601	Union Carbide	OLD	
835.2120	Hydrolysis	42691201	Union Carbide	OLD	
835.1230 835.1240	Soil adsorption/desorption	43195801	Union Carbide	OLD	
835.4300	Aerobic aquatic metabolism	43209601	Union Carbide	OLD	
835.4300	Aerobic aquatic metabolism	43256101	Union Carbide	OLD	
835.4400	Anaerobic aquatic metabolism	43266201	Union Carbide	OLD	

Signature 	Name and Title Sheri Gray, Authorized Representative	Date 5/7/12
--	---	----------------

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## DATA MATRIX

Date: May 7, 2012		EPA Reg No./File Symbol 88704-E		Page 1 of 1	
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056		Product:  PanaX 500™ 50			
Ingredient: Glutaraldehyde					
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
<b>Product Chemistry</b>					
830.1550	Product Identity and composition		Pan Asian Chemicals, Inc.	OWN	
830.1600	Description of materials		Pan Asian Chemicals, Inc.	OWN	
830.1620	Description of production process		Pan Asian Chemicals, Inc.	OWN	
830.1650	Description of formulation process		Pan Asian Chemicals, Inc.	OWN	
830.1670	Discussion of formation of impurities		Pan Asian Chemicals, Inc.	OWN	
830.1700	Preliminary analysis		Pan Asian Chemicals, Inc.	OWN	
830.1750	Certified limits		Pan Asian Chemicals, Inc.	OWN	
830.1800	Enforcement analytical method		Pan Asian Chemicals, Inc.	OWN	
830.1900	Submittal of samples		Pan Asian Chemicals, Inc.	OWN	
<b>Acute Toxicology</b>					
870.1100	Acute Oral Toxicity	00164370	Pan Asian Chemicals, Inc.	OLD	
870.1200	Acute Dermal Toxicity	44691606	Pan Asian Chemicals, Inc.	OLD	
870.1300	Acute Inhalation Toxicity	00060275	Pan Asian Chemicals, Inc.	OLD	
870.2400	Acute Eye Irritation	00117066	Pan Asian Chemicals, Inc.	OLD	
870.2500	Acute Dermal Irritation	00117061	Pan Asian Chemicals, Inc.	OLD	
870.2600	Skin Sensitization	43330201	Pan Asian Chemicals, Inc.	OLD	
870.1100	Acute Oral Toxicity	00164370	Pan Asian Chemicals, Inc.	OLD	
Signature: 			Name and Title Sherri Gray, Authorized Representative		Date 5/7/12

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DATA MATRIX

Date: May 7, 2012

EPA Reg No./File Symbol 88704-E

Page 1 of 1

Applicant's/Registrant's Name & Address:

Pan Asian Chemicals Inc.  
3040 Post Oak Blvd.  
# 1050  
Houston, TX 77056

Product:

PanaX 500™ 50

Ingredient: Glutaraldehyde

Guideline Reference Number

Guideline Study Name

MRID Number

Submitter

Status

Note

Product Chemistry

830.1550	Product Identity and composition
830.1600	Description of materials
830.1620	Description of production process
830.1650	Description of formulation process
830.1670	Discussion of formation of impurities
830.1700	Preliminary analysis
830.1750	Certified limits
830.1800	Enforcement analytical method
830.1900	Submittal of samples

Acute Toxicology

870.1100	Acute Oral Toxicity
870.1200	Acute Dermal Toxicity
870.1300	Acute Inhalation Toxicity
870.2400	Acute Eye Irritation
870.2500	Acute Dermal Irritation
870.2600	Skin Sensitization
870.1100	Acute Oral Toxicity

Signature

Name and Title

Sherri Gray, Authorized Representative

Date

5/7/12

## A532 – New product identical or substantially similar in composition and use to registered product.

- Registered active ingredient, unregistered source of active ingredient.
- Cite all data citation except for product chemistry. Must submit Group A and B product chemistry data for the end use product as well as the unregistered source.

End Use (EP) or Manufacturing Use (MP) product or Technical Grade of the Active Ingredient (TGA)

Guideline No.	Group A: Product Chemistry Data Study Title	EP Data Submitted	MP Data Submitted	TGA Data Submitted
830.1550	Product Identity & Composition	✓		
830.1600	Description of materials used to produce the product	✓		
830.1650	Description of formulation process	✓		
830.1670	Discussion on the formation of impurities	✓		
830.1700	Preliminary analysis	✓		
830.1750	Certified limits (158.345)	✓		
830.1800	Enforcement analytical method	✓		

Guideline No.	Group B: Product Chemistry Data Study Title	EP Data Submitted	MP Data Submitted	TGA Data Submitted
830.6302	Color	✓		
830.6303	Physical State	✓		
830.6304	Odor	✓		
830.6313	Stability to normal and elevated temperatures metal and metal ions			
830.6314	Oxidation/Reduction (Chemical incompatibility)	N/A		
830.6315	Flammability	N/A		
830.6316	Explodability	N/A		
830.6317	Storage stability*	N/A		
830.6319	Miscibility	N/A		
830.6320	Corrosion Characteristics*	N/A		
830.6321	Dielectric Breakdown Voltage	N/A		
830.7000	pH	✓		
830.7050	UV/ Visible Absorption			
830.7100	Viscosity	N/A		
830.7200	Melting Point			
830.7220	Boiling Point			
830.7300	Density	✓		
830.7370	Dissociation Constant			
830.7550	Partition Coefficient			
830.7840	Water Solubility			
830.7950	Vapor Pressure			

Grayed out = data not required

\*May not be included with initial application



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Washington, D.C. 20460

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DATA MATRIX

Date: May 7, 2012	EPA Reg No./File Symbol 88951-E	Page 1 of 1
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056	Product:  PanaX 500™ 50	

Ingredient: Glutaraldehyde (Technical)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
----------------------------	----------------------	-------------	-----------	--------	------


Product Chemistry

Series 830	Product Identity, Composition, Physical/Chemical Characteristics		Pan Asian Chemicals, Inc.	PL	1
------------	--	--	---------------------------	----	---

Acute Toxicology

870.1100	Acute Oral Toxicity	00011706	Pan Asian Chemicals, Inc.	OLD	
870.1200	Acute Dermal Toxicity	44691606	Pan Asian Chemicals, Inc.	OLD	
870.1300	Acute Inhalation Toxicity	00060275	Pan Asian Chemicals, Inc.	OLD	
870.2400	Acute Eye Irritation	00117066	Pan Asian Chemicals, Inc.	OLD	
870.2500	Acute Dermal Irritation	00117061	Pan Asian Chemicals, Inc.	OLD	
870.2600	Skin Sensitization	43330201	Pan Asian Chemicals, Inc.	OLD	

Reregistration Eligibility Decision for Glutaraldehyde (EPA-HQ-OPP-2007-0364)

Signature 	Name and Title Sherri Gray, Authorized Representative	Date 5/7/12
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EPA Form 8570-35 (9-97) Electronic and Paper versions available. Submit only Paper version.

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

401 M Street, S.W.  
Washington, D.C. 20460

Form Approved OMB No. 2070-0060

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## DATA MATRIX

Date: May 7, 2012		EPA Reg No./File Symbol 88951-E		Page 1 of 3	
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056		Product:  PanaX 500™ 50			
Ingredient: Glutaraldehyde (Technical)					
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
<b>Product Chemistry</b>					
830.1550	Product Identity and composition	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1600	Description of materials	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1620	Description of production process	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1650	Description of formulation process	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1670	Discussion of formation of impurities	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1700	Preliminary analysis	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1750	Certified limits	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1800	Enforcement analytical method	48852701	Pan Asian Chemicals, Inc.	OWN	
830.1900	Submittal of samples	48852701	Pan Asian Chemicals, Inc.	OWN	
<b>Acute Toxicology</b>					
870.1100	Acute Oral Toxicity	00011706	Pan Asian Chemicals, Inc.	OLD	
870.1200	Acute Dermal Toxicity	44691606	Pan Asian Chemicals, Inc.	OLD	
870.1300	Acute Inhalation Toxicity	00060275	Pan Asian Chemicals, Inc.	OLD	
870.2400	Acute Eye Irritation	00117066	Pan Asian Chemicals, Inc.	OLD	
870.2500	Acute Dermal Irritation	00117061	Pan Asian Chemicals, Inc.	OLD	
870.2600	Skin Sensitization	43330201	Pan Asian Chemicals, Inc.	OLD	
Signature 			Name and Title Sherri Gray, Authorized Representative		Date 5/7/12

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## DATA MATRIX

Date: May 7, 2012 EPA Reg No./File Symbol 88951-E Page 2 of 3

Applicant's/Registrant's Name &amp; Address:

Pan Asian Chemicals Inc.

3040 Post Oak Blvd.

# 1050

Houston, TX 77056

Product:

PanaX 500™ 50

Ingredient: Glutaraldehyde (Technical)

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Notes
<b>Ecological Effects</b>					
850.2200	Avian dietary toxicity	00117071	BASF Corporation	OLD	
850.2200	Avian dietary toxicity	00117072	BASF Corporation	OLD	
850.1035	Acute toxicity estuarine and marine organisms	00117073	BASF Corporation	OLD	
850.1400	Fish early life stage	00117074	BASF Corporation	OLD	
850.1010	Acute toxicity freshwater invertebrates	00117075	BASF Corporation	OLD	
850.1075	Freshwater fish toxicity	00117076	BASF Corporation	OLD	
850.1075	Freshwater fish toxicity	00117077	BASF Corporation	OLD	

**Mutagenicity**

870.5100	Bacterial reverse mutation assay	43010201	Union Carbide	OLD	
870.5300	In vitro mammalian cell assay	42035301	Union Carbide	OLD	
870.5375					
870.5385	In vivo cytogenetics	42707301	Union Carbide	OLD	
870.5395					

Signature

Name and Title

Sherri Gray, Authorized Representative

Date

5/7/12




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## DATA MATRIX

Date: May 7, 2012	EPA Reg No./File Symbol 88951-E	Page 3 of 3			
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056	Product:  PanaX 500™ 50				
Ingredient: Glutaraldehyde (Technical)					
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Notes
<b>Environmental Fate</b>					
835.2120	Hydrolysis in aqueous solutions	41906201	Union Carbide	OLD	
835.2240	Photodegradation	42462601	Union Carbide	OLD	
835.2120	Hydrolysis	42691201	Union Carbide	OLD	
835.1230	Soil adsorption/desorption	43195801	Union Carbide	OLD	
835.1240					
835.4300	Aerobic aquatic metabolism	43209601	Union Carbide	OLD	
835.4300	Aerobic aquatic metabolism	43256101	Union Carbide	OLD	
835.4400	Anaerobic aquatic metabolism	43266201	Union Carbide	OLD	
870.3150	90-day study	41480501	Union Carbide	OLD	
870.3700	Teratology study	00054767	Arbrook, Inc.	OLD	
Signature 			Name and Title Sherri Gray, Authorized Representative		Date 5/7/12

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## A532 – New product identical or substantially similar in composition and use to registered product.

- Registered active ingredient, unregistered source of active ingredient.
- Cite all data citation except for product chemistry. Must submit Group A and B product chemistry data for the end use product as well as the unregistered source.

End Use (EP) or Manufacturing Use (MP) product or Technical Grade of the Active Ingredient (TGAI)

Guideline No.	Group A: Product Chemistry Data Study Title	EP Data Submitted	MP Data Submitted	TGAI Data Submitted
830.1550	Product Identity & Composition	✓		
830.1600	Description of materials used to produce the product	✓		
830.1650	Description of formulation process	✓		
830.1670	Discussion on the formation of impurities	✓		
830.1700	Preliminary analysis	✓		
830.1750	Certified limits (158.345)	✓		
830.1800	Enforcement analytical method	✓		

Guideline No.	Group B: Product Chemistry Data Study Title	EP Data Submitted	MP Data Submitted	TGAI Data Submitted
830.6302	Color	✓		
830.6303	Physical State	✓		
830.6304	Odor	✓		
830.6313	Stability to normal and elevated temperatures metal and metal ions			
830.6314	Oxidation/Reduction (Chemical incompatibility)	N/A		
830.6315	Flammability	N/A		
830.6316	Explodability	N/A		
830.6317	Storage stability*	N/A		
830.6319	Miscibility	N/A		
830.6320	Corrosion Characteristics*	N/A		
830.6321	Dielectric Breakdown Voltage	N/A		
830.7000	pH	✓		
830.7050	UV/ Visible Absorption			
830.7100	Viscosity	N/A		
830.7200	Melting Point			
830.7220	Boiling Point			
830.7300	Density	✓		
830.7370	Dissociation Constant			
830.7550	Partition Coefficient			
830.7840	Water Solubility			
830.7950	Vapor Pressure			

Grayed out = data not required

\*May not be included with initial application

## A532 – Acute Toxicity Requirements

- Must use cite-all data citation for studies listed below

Guideline No.	Acute toxicity (6 pack) Study Title	Cite All	Selective
830.t t00	Acute Oral (LD50)		✓
830.t200	Acute Dermal (LD50)		✓
830.t300	Acute Inhalation (LC50)		✓
830.2400	Acute Eye Irritation		✓
830.2500	Acute Dermal Irritation		✓
830.2600	Dermal Sensitization		✓





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**SUMMARY OF THE PHYSICAL/CHEMICAL PROPERTIES (PR Notice 98-1)**

1. PRODUCT NAME: PanaX 500™ 50		2. Reg. No. 88951-E
3. COMPANY NAME: Pan Asian Chemicals Inc.		4. SUBMISSION DATE: 5-7-12
5. FIRST SUBMISSION <input checked="" type="checkbox"/>	7. PESTICIDE TYPE: Bactericide	10. REGISTRATION <input checked="" type="checkbox"/>
6. RESUBMISSION <input type="checkbox"/>		11. REREGISTRATION <input type="checkbox"/>
8. FORMULATED MANUFACTURING-USE PRODUCT <input type="checkbox"/> OR 9. END-USE PRODUCT <input type="checkbox"/>		12. REREG CASE#
13. PRODUCT MANAGER OR CHEMICAL REVIEW MANAGER #/NAME (IF KNOWN): Marshall Swindell		16. MRID or REPORT NO.
14. GUIDELINE REFERENCE NO. (GRN)/TITLE	15. VALUE or QUALITATIVE DESCRIPTION/METHOD(s) USED WHERE APPLICABLE AND REFERENCES	
<b>GROUP B, Series 830-Physical and Chemical Properties (40 CFR 156.190)</b>		
-6302 Color	Colorless	Pan Asian Chemicals Inc. Internal Document
-6303 Physical State	Pale yellow liquid	Pan Asian Chemicals Inc. Internal Document
-6304 Odor	Sharp and pungent	Pan Asian Chemicals Inc. Internal Document
-6314 Oxidation/Reduction: Chemical Incompatibility	Not applicable. Product doesn't contain any oxidizing or reducing agents	Pan Asian Chemicals Inc. Internal Document
-6315 Flammability/Flame Extension	Not applicable. Product doesn't contain combustible materials.	Pan Asian Chemicals Inc. Internal Document
-6316 Explodability	Not applicable. Product doesn't contain explosive materials.	Pan Asian Chemicals Inc. Internal Document
-6317 Storage Stability	Submitted upon completion.	N/A
-6319 Miscibility	Not applicable. Product isn't an emulsifiable liquid diluted with a petroleum solvent.	Pan Asian Chemicals Inc. Internal Document
-6320 Corrosion Characteristics	Submitted upon completion.	N/A
-6321 Dielectric Breakdown Voltage	Not applicable. Product won't be used around electrical equipment.	Pan Asian Chemicals Inc. Internal Document
-7000 pH	3.1-4.5	Pan Asian Chemicals Inc. Internal Document
-7100 Viscosity	15.4 cps @ 25°C	Glutaraldehyde 50% MSDS
-7300 Density/Relative Density/Bulk Density	1.13 g/cm³	Pan Asian Chemicals Inc. Internal Document

EPA Form 8570-36 (07/JAN/1998)

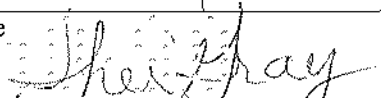
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**DATA MATRIX**

Date: May 7, 2012		EPA Reg No./File Symbol 88704-E		Page 1 of 1	
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056		Product:  PanaX 500™ 50			
Ingredient: Ghitaraidehyde					
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
<b>Product Chemistry</b>					
830.1550	Product Identity and composition		Pan Asian Chemicals, Inc.	OWN	
830.1600	Description of materials		Pan Asian Chemicals, Inc.	OWN	
830.1620	Description of production process		Pan Asian Chemicals, Inc.	OWN	
830.1650	Description of formulation process		Pan Asian Chemicals, Inc.	OWN	
830.1670	Discussion of formation of impurities		Pan Asian Chemicals, Inc.	OWN	
830.1700	Preliminary analysis		Pan Asian Chemicals, Inc.	OWN	
830.1750	Certified limits		Pan Asian Chemicals, Inc.	OWN	
830.1800	Enforcement analytical method		Pan Asian Chemicals, Inc.	OWN	
830.1900	Submittal of samples		Pan Asian Chemicals, Inc.	OWN	
<b>Acute Toxicology</b>					
870.1100	Acute Oral Toxicity	00164370	Pan Asian Chemicals, Inc.	OLD	
870.1200	Acute Dermal Toxicity	44691606	Pan Asian Chemicals, Inc.	OLD	
870.1300	Acute Inhalation Toxicity	00060275	Pan Asian Chemicals, Inc.	OLD	
870.2400	Acute Eye Irritation	00117066	Pan Asian Chemicals, Inc.	OLD	
870.2500	Acute Dermal Irritation	00117061	Pan Asian Chemicals, Inc.	OLD	
870.2600	Skin Sensitization	43330201	Pan Asian Chemicals, Inc.	OLD	
870.1100	Acute Oral Toxicity	00164370	Pan Asian Chemicals, Inc.	OLD	
Signature: 			Name and Title Sherri Gray, Authorized Representative		Date 5/7/12

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## DATA MATRIX

Date: May 7, 2012		EPA Reg No./File Symbol 88704-E		Page 1 of 1	
Applicant's/Registrant's Name & Address: Pan Asian Chemicals Inc. 3040 Post Oak Blvd. # 1050 Houston, TX 77056		Product:  PanaX 500™ 50			
Ingredient: Glutaraldehyde					
Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
<b>Product Chemistry</b>					
830.1550	Product Identity and composition				
830.1600	Description of materials				
830.1620	Description of production process				
830.1650	Description of formulation process				
830.1670	Discussion of formation of impurities				
830.1700	Preliminary analysis				
830.1750	Certified limits				
830.1800	Enforcement analytical method				
830.1900	Submittal of samples				
<b>Acute Toxicology</b>					
870.1100	Acute Oral Toxicity				
870.1200	Acute Dermal Toxicity				
870.1300	Acute Inhalation Toxicity				
870.2400	Acute Eye Irritation				
870.2500	Acute Dermal Irritation				
870.2600	Skin Sensitization				
870.1100	Acute Oral Toxicity				
Signature 		Name and Title Sherri Gray, Authorized Representative		Date 5/7/12	

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\*Pages 42-80 Quality control process information may be entitled to confidential treatment\*



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
WASHINGTON, D.C. 20460

June 08, 2012

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

PAN ASIAN CHEMICALS, INC  
3040 POST OAK BLVD, # 1050  
HOUSTON, TX 77056

Report of Analysis for Compliance with PR Notice 11-3

Thank you for your submittal of 04-JUN-12. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 11-3. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.





Sherri Gray &lt;sherrigrayconsulting@gmail.com&gt;

---

**PRIA Payment Confirmations**

1 message

---

Scott Gauling <scott@panasianchem.com>  
To: Sherri Gray <sherrigrayconsulting@gmail.com>  
Cc: Michelle Moore <mm@panasianchem.com>

Tue, May 1, 2012 at 1:45 PM

The PRIA fees have been paid via the on-line payment site. Attached are the confirmations.

Regards,

*Scott Gauling*

Controller

Pon Asion Chemicals Inc.

3040 Post Oak Blvd, Suite 1050

Houston, TX 77056

☎ 713-621-1888 voice

☎ 713-840-0050 fax

[www.PonAsionChem.com](http://www.PonAsionChem.com)



C-TPAT Certified

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----- Forwarded message -----

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Transaction Date: May 1, 2012 1:39:11 PM  
Total Payments Scheduled: 1  
Frequency: OneTime

Decision Number:  
Registration Number:  
Company Name: Pan Asian Chemicals Inc  
Company Number: 88951  
Action Code: A532

THIS IS AN AUTOMATED MESSAGE. PLEASE DO NOT REPLY.

[illegible]



*Sherri Gray Environmental Consulting*  
15616 Plain Dealing Place  
Manassas, VA 20112  
703-628-8968 (phone)  
267-219-2093 (fax)

May 7, 2012

Marshall Swindell  
Antimicrobials Division, PM 33  
U.S. Environmental Protection Agency  
Office of Pesticide Programs (7504P)  
Document Processing Desk (PRIA)  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202

Subject: PanaX 500™ 50  
EPA File Symbol Number 88951-E  
PRIA (A532)

Dear Mr. Swindell:

On behalf of our client Pan Asian Chemicals Inc. (3040 Post Oak Blvd., # 1050, Houston, TX 77056, EPA Company Number 88951), Sherri Gray Environmental Consulting is submitting a PRIA (A532) for review, for PanaX 500™ 50 (EPA File Symbol Number 88951-E). The following items are enclosed in support of this PRIA action:

- Application for Pesticide Registration, EPA 8570-1 Form;
- Certification with Respect to Citation of Data, EPA 8570-34 Form;
- Confidential Statement of Formula, EPA 8570-4 Form;
- Data Matrix, EPA 8570-35 Form;
- Product Chemistry Report;
- Copy of small business waiver;
- Copy of PRIA fee payment; and
- Product Label (5 copies).

If you have any questions, please contact me at (703) 628-8968 or [sherrigrayconsulting@gmail.com](mailto:sherrigrayconsulting@gmail.com).

Sincerely,

Sherri Gray  
Authorized Representative of  
Pan Asian Chemicals Inc.

Enclosures

cc: Michelle Moore, Pan Asian Chemicals Inc.

ENCLOSURE

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Washington, D.C. 20460

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**Certification with Respect to Citation of Data**

<b>Applicant's/Registrant's Name, Address, and Telephone Number</b> Pan Asian Chemicals Inc., 3040 Post Oak Blvd., # 1050, Houston, TX 77056	<b>EPA Registration Number/File Symbol</b> 88951-E
<b>Active Ingredient(s) and/or representative test compound(s)</b> Glutaraldehyde	<b>Date</b> 5/7/12
<b>General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158)</b> Industrial bactericide in water systems, paper processing systems, water based coatings, lubricants, concrete admixtures, and oil and gas production	<b>Product Name</b> PanaX 500™ 50

**NOTE:** If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-In Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

**SECTION I: METHOD OF DATA SUPPORT (Check one method only)**

<input type="checkbox"/> I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).	<input checked="" type="checkbox"/> I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).
--	---

**SECTION II: GENERAL OFFER TO PAY**

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application, to the extent required by FIFRA.

**SECTION III: CERTIFICATION**

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (i) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

<b>Signature</b> 	<b>Date</b> 5/7/12	<b>Typed or Printed Name and Title</b> Sherri Gray, Authorized Representative
----------------------	-----------------------	--

# PRIA 2 – 21 Day Content Screen Review Worksheet

(EPA/OPP Use Only)

21 Day Screen Start Date: 3/23/09  
6-5-12  
 Experts In-Processing Signature: MF HARRINGTON Date 6-7-12 Fee Paid: Yes ☒  
 Division management contacted on issues No ☐ Yes ☐ Date \_\_\_\_\_

EPA Reg. Number: <u>88951-E</u>		EPA Receipt Date: <u>6-5-12</u>				
Items for Review				Yes	No	N/A*
1	Application Form (EPA Form 8570-1)(link to form) signed & complete including package type			X		
2	Confidential Statement of Formula all boxes completed, form signed, and dated (EPA Form 8570-4) (Link to form)			X		
	a) All inerts (link to <a href="http://www.epa.gov/oppr001/inerts/">http://www.epa.gov/oppr001/inerts/</a> ), including fragrances, approved for the proposed uses (see Footnote A)			yes X	no	
3	Certification with Respect to Citation of Data (EPA Form 8570-34) (Link to form) completed and signed (N/A if 100% repack)			X		
	Certificate and data matrix consistent			X		
	If applicant is relying on data that are compensable, is the offer to pay statement included. (see Footnote B)			yes	no	
	If applicable, is there a letter of Authorization for exclusive use only.					
4	Formulator's Exemption Statement (EPA Form 8570-27) (Link to form) completed and signed (N/A if source is unregistered or applicant owns the technical)					X
5	Data Matrix (EPA Form 8570-35) (Link to form) both internal and external copies (PR 98-5) (Link to PR 98-5) completed and signed (N/A if 100% repack)			X		
	a) Selective Method (Fee category experts use)			yes X	no	
	b) Cite-All (Fee category experts use)					
	c) Applicant owns all data (Fee category experts use)					
6	5 Copies of Label (link to <a href="http://www.epa.gov/oppfead1/labeling/lrm/">http://www.epa.gov/oppfead1/labeling/lrm/</a> ) (Electronic labels on CD are encouraged and guidance is available)( link to <a href="http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm#labels">http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm#labels</a> )			X		

7	Is the data package consistent with PR Notice 86-5 (link to PRN 86-5)	X		
8	Notice of Filing (link to <a href="http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm">http://www.epa.gov/pesticides/regulating/tolerance_petitions.htm</a> ) included with petitions (link to <a href="http://www.epa.gov/pesticides/regulating/tolerances.htm">http://www.epa.gov/pesticides/regulating/tolerances.htm</a> )			X
9	If applicable for conventional applications, reduced risk rationale (link to <a href="http://www.epa.gov/opprd001/workplan/reducedrisk.html">http://www.epa.gov/opprd001/workplan/reducedrisk.html</a> )			X
10	Required Data (link to <a href="http://www.epa.gov/pesticides/regulating/data_requirements.htm">http://www.epa.gov/pesticides/regulating/data_requirements.htm</a> ) and/or data waivers. See Footnote C.			
	a) List study (or studies) not included with application			

**Comments:**

- studies pass 11-03 review
- Inerts approved for food use under 40 CFR 180.910 post harvest application.

JB  
06/08/12

488527

\* N/A – Not Applicable

**Footnotes**

A. During the 21 day initial content review, all CSFs will be reviewed to determine whether all inerts listed, including fragrances, are approved for the proposed uses. If an unapproved inert is identified, the applicant must either 1) resolve the inert issue by, for example, removing the inert, substituting it with an approved inert, submitting documentation that EPA approved the inert for the proposed pesticidal uses, correcting mistakes on the CSF, etc. or 2) provide the data to support OPP approval of the inert or 3) withdraw the application. Removing or substituting an inert ingredient will require a new CSF and may require submission of data. All information, forms, data and documentation resolving the inert issue must have been received by the Agency or the application withdrawn within the 21 day period, otherwise, the Agency will reject the application as described below.

To successfully complete this aspect of the 21 day initial content screen, applicants are **strongly encouraged** to verify that all inert ingredients have been approved for the application's uses **even if a product is currently registered** by consulting the inert Web



site [link to <http://www.epa.gov/opprd001/inerts/lists.html>] and if the inert is not approved, to **obtain the necessary inert approval prior to submitting an application to register a pesticide product containing that inert ingredient**. Some inert ingredients are no longer approved for food uses or certain types of uses. The name and/or CAS number on a CSF must match the name and CAS number on this web site. Simple typographical errors in the name or CAS number have resulted in processing delays.

If an inert is not listed on the inert ingredient web site and the applicant believes that the inert has been approved, the applicant should contact the Inert Ingredient Assessment Branch (IIAB) at [inertsbranch@epa.gov](mailto:inertsbranch@epa.gov) and resolve the issue. Copies of the correspondence with IIAB resolving the issue should accompany the application. All new inerts except PIP inerts are reviewed by IIAB. The IIAB should also be contacted for any questions on what supporting data needs to be submitted for and the Agency's inert review process. Questions on PIP inerts should be directed to the Chief of Microbial Pesticides Branch [Link to [http://www.epa.gov/opbpbpd1/biopesticides/contacts\\_bppd.htm](http://www.epa.gov/opbpbpd1/biopesticides/contacts_bppd.htm)].

When a brand, trade, or proprietary name of an inert ingredient is listed on a CSF, additional information such as an alternate name of the inert, CAS number or other information [link to <http://www.epa.gov/opprd001/inerts/tips.pdf>] must also be included to enable the Agency to determine if it has been approved. Each component of an inert mixture (including a fragrance) must be identified. In some cases, the supplier of the mixture or fragrance may need to provide this information to the Agency. Prior to the Agency's receipt of an application, applicants must arrange with a proprietary mixture or fragrance supplier to provide the component information to the Agency or promptly upon EPA's request. If the inert ingredients in a proprietary blend (including fragrances) cannot or are not identified or provided within the 21-day content review period, the Agency will reject the application.

During the 21 day content review, applicants should submit information to the individual identified by the Agency when the applicant is informed of an unapproved inert.

### **Unapproved Inerts Identified on CSFs**

#### **All applications except conventional new products and PIPs**

Once an unapproved inert is identified on a CSF, the Agency will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
2. Submit the information and data needed for the Agency to approve the unapproved inert. If this option is selected and implemented, the Agency may request an extension in the PRIA decision review timeframe to accommodate the inert review/approval process;

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of these options is selected and implemented by the applicant within the 21 day content review period, the Agency will reject the application and retain 25% of the full fee of the category identified.

#### Conventional New Product Applications

When the Registration Division identifies an unapproved inert on a CSF with an application for a new product that the applicant has not identified as requiring an inert approval (R311, R312 or R313), it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or
2. Submit the information and data needed for the Agency to approve the unapproved inert, including any required petition to establish or amend a tolerance or exemption from a tolerance. (This option may change the PRIA category for the application, which could require a longer decision review time and a larger fee. If additional fees are due, they must be received by the Agency within the 21 day content review period.)
3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21-day content-review period, the Agency will reject the application and retain 25% of the appropriate fee for the new product-inert approval category.

#### PIP Applications

When the Biopesticide and Pollution Prevention Division identifies an unapproved inert on a PIP CSF and a request to approve the inert does not accompany the application, it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the spelling or name of the inert to that in 40 CFR 174, or providing documentation that the inert has been approved; or
2. Submit the information and data needed for the Agency to approve the unapproved inert. If an inert ingredient tolerance exemption petition is required, the petition must be received by the Agency and the B903 fee paid within the 21 day period. If this option is selected and implemented, the Agency will discuss harmonizing the timeframe for both actions.

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21 day content review period, the Agency will reject the application and retain 25% of the fee.

B. A policy on documentation of offers to pay is still being developed, however, for a me-too or fast track (similar/identical) new product, R300 or A530, an application without the necessary authorizations of offers to pay will be placed into either R301 or A531. The Agency recommends that authorizations of offers to pay be submitted with other PRLA applications to avoid delays in the Agency's decision.

C. Biopesticide applicants are advised to contact the Agency and discuss study waivers prior to submitting their application to the Agency. Documentation of such discussions should be submitted with the study waiver.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

June 6, 2012

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

OPP Decision Number: D-465651  
EPA File Symbol or Registration Number: 88951-E  
Product Name: PANAX 500 50  
EPA Receipt Date: 04-Jun-2012  
EPA Company Number: 88951  
Company Name: PAN ASIAN CHEMICALS, INC

MICHELLE MOORE  
PAN ASIAN CHEMICALS, INC  
3040 POST OAK BLVD, # 1050  
HOUSTON, TX 77056-

SUBJECT: Receipt of Application and 75% Small Business Waiver Request

Dear Registrant:

The Office of Pesticide Programs has received your application, 75% small business waiver request, and certification of payment. If you submitted data with this application, the results of the PRN-2011-3 screen will be communicated separately. During the administrative screen, the Office of Pesticide Programs has determined that this Action is subject to a Pesticide Registration Service Fee as defined in the Pesticide Registration Improvement Act.

The Action has been identified as Action Code: A532  
UNREGISTERED SOURCE OF ACTIVE INGREDIENT; NEW PRODUCT; CITE-ALL DATA  
CITATION EXCEPT FOR PRODUCT CHEMISTRY; IDENTICAL OR SUBSTANTIALLY  
SIMILAR IN COMPOSITION AND USE TO A REGISTERED PRODUCT; PRODUCT  
CHEMISTRY DATA SUBMITTED; REGISTERED ACTIVE INGREDIENT;

Your request for waiver has been forwarded for review. You will be notified in writing when a determination is made regarding your request. If your waiver request is approved, the decision review time period will start on the date of approval. If your waiver request is denied, you will receive an invoice for the outstanding balance. If you have any questions, please contact the Pesticide Registration Service Fee Ombudsman at (703) 308-6427.

Sincerely,

A handwritten signature in black ink, appearing to be "M. Moore".

Front End Processing Staff  
Information Technology & Resources Management Division

# Fee for Service

NR  
{917974S~

This package includes the following

- ☒ New Registration
- ☐ Amendment

☒ Studies? ☒ Fee Waiver?

☐ volpay % Reduction: \_\_\_\_

for Division

- ☒ AD
- ☐ BPPD
- ☐ RD

Risk Mgr. 33

Receipt No.

S- 917974

EPA File Symbol/Reg. No.

88951-E

Pin-Punch Date:

6/5/2012

☐ This item is NOT subject to FFS action.

## Action Code:

Requested: A532

Granted: A532

Amount Due: \$ 4,631.00

## Parent/Child Decisions:

☒ Inert Cleared for Intended Use

☐ Uncleared Inert in Product

Reviewer: Team 2 Date: June 5

Remarks: New "Me-Too" Product Registration



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**401 M Street, S.W.**  
**Washington, D.C. 20460**

**Paperwork Reduction Act Notice:** The public reporting burden for this collection of information is estimated to average 0.25 hours per response for registration activities and 0.25 hours per response for reregistration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the form to this address.

**SUMMARY OF THE PHYSICAL/CHEMICAL PROPERTIES (PR Notice 98-1)**

1. PRODUCT NAME: PanaX 500™ 50		2. Reg. No. 8895t-E
3. COMPANY NAME: Pan Asian Chemicals Inc.		4. SUBMISSION DATE: 5-7-12
5. FIRST SUBMISSION <input checked="" type="checkbox"/>	7. PESTICIDE TYPE: Bactericide	10. REGISTRATION <input checked="" type="checkbox"/>
6. RESUBMISSION <input type="checkbox"/>		
8. FORMULATED MANUFACTURING-USE PRODUCT <input type="checkbox"/> OR 9. END-USE PRODUCT <input type="checkbox"/>		11. REREGISTRATION <input type="checkbox"/>
13. PRODUCT MANAGER OR CHEMICAL REVIEW MANAGER #/NAME (IF KNOWN): Marshall Swindell		12. REREG CASE#
14. GUIDELINE REFERENCE NO. (GRN)/TITLE	15. VALUE or QUALITATIVE DESCRIPTION/METHOD(s) USED WHERE APPLICABLE AND REFERENCES	16. MRID or REPORT NO.
<b>GROUP B, Series 830-Physical and Chemical Properties (40 CFR 158.190)</b>		
-6302 Color	Colorless	
-6303 Physical State	Pale yellow liquid	
-6304 Odor	Sharp and pungent	
-6314 Oxidation/Reduction: Chemical Incompatibility	Not applicable. Technical grade active ingredient does not contain any oxidizing or reducing agents	
-6315 Flammability/Flame Extension	Not applicable	
-6316 Explodability	Not applicable	
-6317 Storage Stability	Not applicable	
-6319 Miscibility	Not applicable	
-6320 Corrosion Characteristics	Not applicable	
-6321 Dielectric Breakdown Voltage	Not applicable	
-7000 pH	3.1-4.5 / 3.5	
-7100 Viscosity	Not applicable.	
-7300 Density/Relative Density/Bulk Density	1.06 g/mL <sup>2</sup>	

**PRECAUTIONARY STATEMENTS**  
**HAZARD TO HUMANS AND DOMESTIC ANIMALS**  
**DANGER**

**KEEP OUT OF REACH OF CHILDREN**

Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if inhaled. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish, aquatic invertebrates, oysters and shrimp. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

**PHYSICAL OR CHEMICAL HAZARDS**

FLAMMABLE. Keep away from heat and flame.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. PanaX 500™ 50 Industrial Bactericide is especially recommended for controlling sulfate reducing bacteria in water to be used for polymer treated water-flood programs. PanaX 500™ 50 Industrial Bactericide does not interfere with the viscosity characteristics of the polymer agent. PanaX 500™ 50 Industrial Bactericide may be applied in systems used to treat injection water immediately ahead of water de-oiling equipment such as an air flotation unit in the clear water holding tank or at the suction side of the injection pump. PanaX 500™ 50 Industrial Bactericide should be used full strength in concentrations of 30 ppm of PanaX 500™ 50 Industrial Bactericide on a continuous basis or in slug applications to 5,000 ppm of PanaX 500™ 50 Industrial Bactericide or higher concentrations as needed (1/4 pint per 1,000 gallons equals approximately 30 ppm). A typical slug application is one quart per 1,000 gallons.

**STORAGE AND HANDLING**

Container: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substance. Refrigeration has been recommended.

**LIMITED WARRANTY AND DISCLAIMER**

Seller warrants that the product conforms to its chemical description as contained on this label and is reasonably fit for the purposes stated on this label when used in accordance with directions under normal conditions of use. THE WARRANTIES MADE IN THIS PARAGRAPH ARE SELLER'S SOLE WARRANTIES WITH RESPECT TO THE PRODUCT AND ARE MADE EXPRESSLY IN LIEU OF AND EXCLUDE ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES.

**STORAGE AND DISPOSAL**

*Do not contaminate water, food, or feed by storage or disposal.*

**STORAGE:** Do not pour, spill or store near heat or open flame.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticides, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or your Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full of water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat the rinsing procedure two more times.

**PanaX 500™ 50**

**Industrial Bactericide**

**FOR USE IN INDUSTRIAL PROCESSES ONLY.**

**NOT FOR DOMESTIC USE.**

ACTIVE INGREDIENT:

Glutaraldehyde.....50.0%

INERT INGREDIENTS:.....50.0%

TOTAL: .....100.0%

**NET CONTENTS:** Bulk, Drum or As Marked on Container

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**

**FIRST AID**

**IF SWALLOWED:**

- Call a poison control center or a doctor immediately for treatment advice.
- DO NOT INDUCE VOMITING.
- Do not give anything to drink.

**IF IN EYES:**

- Wash immediately and continuously with flowing water for at least 30 minutes.
- Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist.
- Call a poison control center or a doctor immediately for treatment advice.

**IF ON SKIN OR CLOTHING:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or a doctor for treatment advice.

**IF INHALED:**

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a poison control center or a doctor for further treatment advice.

**NOTE TO PHYSICIAN:**

Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.

*Have the MSDS and, if available, the product container or label with you when calling a poison control center or a doctor, or going for treatment.*

**IN CASE OF EMERGENCY:**

Endangering life or property involving this product, call collect: (989) 636-4400

**EPA Registration Number..... 88951-E**

**EPA Establishment Number.....**

**PAN ASIAN CHEMICALS INC.**

**3040 POST OAK BLVD.# 1050**

**HOUSTON, TEXAS 77056**

**EMERGENCY CONTACT (24 HOURS PER DAY) 1-800-424-9300**

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

### AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS/ RECIRCULATING COOLING AND PROCESS WATER SYSTEMS:

This product may be used only in industrial air washers and air washer systems which have mist-eliminating components.

PanaX 500™ 50 should be added at the application rates described below to a water treatment system at a convenient point of uniform mixing such as the basin area. Addition may be made intermittently (SLUG DOSE) or continuously. Badly fouled systems can be shock treated with PanaX 500™ 50. Under these conditions, blowdown should be discontinued for up to 20 hours. PanaX 500™ 50 can be used in industrial process water systems that contain ultra-filtration units and non-medical reverse osmosis membranes (where approved for compatibility by the membrane manufacturer) and associated distribution systems.

#### INTERMITTENT (SLUG DOSE) METHOD

Initial dose: When the system is noticeably fouled, apply 11 to 24 fluid ounces of PanaX 500™ 50 per 1000 gallons of water in the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 0.8 to 12 fluid ounces of PanaX 500™ 50 per 1000 gallons of water in the system weekly, or as needed to maintain control. Badly fouled system must be cleaned before treatment is begun.

#### CONTINUOUS FEED METHOD

Initial dose: When the system is noticeably fouled, apply 12 to 24 fluid ounces of PanaX 500™ 50 per 1000 gallons of water in the system.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2.0 to 12 fluid ounces of PanaX 500™ 50 per 1000 gallons of water in the system per day. Badly fouled system must be cleaned before treatment is begun.

### SERVICE WATER AND AUXILIARY SYSTEMS

PanaX 500™ 50 should be used at the same application rates, and in the same manner as described above. It should be added to the system as a point that will allow for uniform mixing throughout the system.

### HEAT TRANSFER SYSTEMS

(Evaporative Condensers, Dairy Sweetwater Systems, Hydrostatic Sterilizers and Retorts, and Pasteurizers and Warmers) PanaX 500™ 50 should be used at the same application rates, and in the same manner as described above. It should be added to the system as a point of uniform mixing such as a basin area, sump area, or other reservoir or collection area from which the treated water will be circulated uniformly throughout the system.

### INDUSTRIAL WASTEWATER SYSTEMS:

(Wastewater systems, wastewater sludge and wastewater holding tanks)

PanaX 500™ 50 should be added to a wastewater system or sludge at a convenient point of uniform mixing such as the digester. Add 10.8 to 54 fluid ounces (10.62 pints to 3.4 quarts (900 to 4,500 gpm) PanaX 500™ 50 per 100 gallons of wastewater or sludge.

### PAPER MILLS AND PAPER MILL PROCESS WATER SYSTEMS

PanaX 500™ 50 should be added to the paper making system at a point of uniform mixing such as the beaters, broke chest pump, save-all tank, or white water tank.

Initial Dose: When the system is noticeably contaminated, add 1.0 to 6.0 lbs of PanaX 500™ 50 per ton of pulp or paper (dry basis) as a slug dose. Repeat until control is achieved. Heavily fouled systems should be boiled out prior to initial treatment.

Subsequent Dose: When microbial control is evident, add 0.6 to 4.0 lbs. of PanaX 500™ 50 per ton of pulp or paper (dry basis) as a slug dose as necessary to maintain control.

### PIGMENTS AND FILLER SLURRIES FOR PAPER AND PAPERBOARD

(For use in food and non-food contact pigments and filler slurries) Use from 0.2 to 1.2 lbs. of PanaX 500™ 50 per 1,000 lbs. dry powder to produce a concentration of 100 to 1200 ppm as product (based on slurry solids) in the mixed slurry.

### WATER BASED COATINGS

NOTE: For use in non-food contact coatings only. Use from 0.2 to 1.2 lbs. of PanaX 500™ 50 per 1,000 lbs. dry powder to produce a concentration of 100 to 1200 ppm as product (based on slurry solids) in the mixed slurry.

### AQUEOUS METAL WORKING FLUIDS

PanaX 500™ 50 should be added to a metal working fluid system at a point of uniform mixing such as the fluid collection tank. Additions may be made intermittently (SLUG DOSE) at intervals of one week or less.

Initial Dose: When the system is noticeably fouled apply 2.4 to 7.2 fluid ounces (100 to 300 ppm active) of PanaX 500™ 50 per 100 gallons of metal working fluid to the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident add 0.95 to 4.8 fluid ounces (40 to 200 ppm active) of PanaX 500™ 50 per 100 gallons of metal working fluid to the system weekly, or as needed to maintain control. Badly fouled system should be cleaned before treatment is begun.

### WATER BASED CONVEYOR LUBRICANTS

(Brewery, Juice, Dairy, Beverage, and Food Processing Systems)

Avoid contamination of food in application of product. Thoroughly clean all tracks and conveyors to remove gross soil. Rinse well. Use an automatic feed system to provide 1.2 to 7.2 fluid ounces (50 to 300 ppm active) of PanaX 500™ 50 per 100 gallons of diluted lubricant.

### GENERAL PRESERVATIVE USE

PanaX 500™ 50 is recommended for use in aqueous or water-containing products and systems, including industrial, institutional and consumer in can processes and products, to control the growth of bacteria and fungi. For effective preservation, add PanaX 500™ 50 to the product formulation at a rate of 0.04% to 0.0% based on the water content of the product (0.0 to 4.0 lbs PanaX 500™ 50 per 1,000 lbs water content. Mix uniformly.

### PRESERVATIVE FOR CONCENTRATES

For use in concentrates where effective preservation is needed after dilution, add PanaX 500™ 50 to the product formulation at a rate such that the diluted end-use product will contain 0.04% to 0.0% PanaX 500™ 50. At no time during the preservation process should the level of PanaX 500™ 50 exceed 6.6%

### REVERSE OSMOSIS MEMBRANES

For effective preservation of reverse osmosis elements (where approved for compatibility by membrane manufacturer), immense elements in a tank containing 0.4% to 4.0% PanaX 500™ 50. PanaX 500™ 50 can also be added to in-line recirculating systems for preservation of installed out-of-service reverse osmosis equipment (where approved for compatibility by membrane manufacturer). Add 0.4% to 0.0% PanaX 500™ 50 to the tank in the circulating system. Maintain the concentration of PanaX 500™ 50 by periodic addition to counteract any system leakage.

### CONCRETE ADMIXTURES

For effective preservation of concrete admixtures, add PanaX 500™ 50 to the product formulation at a rate of 0,000 to 16,000 ppm based on the weight of the admixture (4.0 to 16.0 lbs. PanaX 500™ 50 per 1,000 concrete admixture.) Mix uniformly.

### WATER FLOODS

PanaX 500™ 50 should be added to a water flood system at a point of uniform mixing.

Initial Treatment: When the system is noticeably contaminated, add 100 to 10,000 ppm PanaX 500™ 50 to the system (0.1 to 9.4 gallons PanaX 500™ 50 per 1,000 flood water). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 0.01 to 10,000 ppm PanaX 500™ 50 (0.04 to 9.4 gallons PanaX 500™ 50 per 1,000 gallons flood water) to the system weekly, or as needed to maintain control.

### ERAC FLUIDS

Product not registered for this use in the State of California

PanaX 500™ 50 reduces bacterial contamination and degradation of fracturing fluids and gets used in oil and gas well simulations. Add PanaX 500™ 50 to the frac water storage tanks or directly into the well head injection pipeline as the water is being pumped down-hole.

Dose Range: PanaX 500™ 50 should be added at a rate of 200 to 10,000 ppm (1.9-94 gallons per 10,000 gallons) depending on the degree of bacterial fouling in the source water.

### DRILLING, COMPLETION, AND WORKOVER FLUIDS

PanaX 500™ 50 should be added to a drilling fluid system at a point of uniform mixing such as the circulating mud tank.

Initial treatment: Add 100 to 2,000 ppm PanaX 500™ 50 (0.4 to 7.9 gallons PanaX 500™ 50 per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination.

Maintenance dosage: Maintain a concentration of 100 to 2,000 ppm PanaX 500™ 50 by adding 0.4 to 7.9 gallons of PanaX 500™ 50 per 100 barrels of drilling fluid, or as needed, depending on the severity of contamination.

### PACKER FLUIDS

PanaX 500™ 50 should be added to a packer fluid at a point of uniform mixing such as a circulating holding tank. Add 100 to 1,200 ppm PanaX 500™ 50 (0.4 to 4.7 gallons PanaX 500™ 50 per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination. Seal the treated packer fluid in the wall between the casing and production tube.

### OIL PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS

Product not registered for this use in the State of California

PanaX 500™ 50 should be added to an oil production or transmission line via direct injection. The application should be conducted to ensure maximum distribution of PanaX 500™ 50 throughout the entire internal pipeline surface by adding a sufficient amount of biocide to detect/measure a residual concentration at the pack end of the pipeline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it may be desirable to dilute the PanaX 500™ 50 with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 500 to 5,000 ppm based on the volume of water in the pipeline. Injections to the system should be weekly or as needed to maintain control.

### GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS

Product not registered for this use in the State of California

PanaX 500™ 50 should be added to a gas production or transmission line via direct injection. The application should be conducted to ensure maximum distribution of PanaX 500™ 50 throughout the entire internal pipeline surface by adding a sufficient amount of biocide to detect/measure a residual concentration at the back end of the pipeline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it may be desirable to dilute the PanaX 500™ 50 with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 500 to 5,000 ppm based on the volume of water in the pipeline. Injections to the system should be weekly or as needed to maintain control.

### GAS STORAGE WELLS AND SYSTEMS

Individual injection wells should be treated with sufficient quantity of PanaX 500™ 50 to produce a concentration of 1,000 to 10,000 ppm PanaX 500™ 50 when diluted by the water present in the formation. Injection should take place before gas is injected (during the summer). Injections should be repeated yearly, or as needed to maintain control. Individual drips should be treated with a sufficient quantity of PanaX 500™ 50 to produce a concentration of 400 to 4,000 ppm PanaX 500™ 50 when diluted by the water present in the drip. Injections should be repeated yearly, or as needed to maintain control.

### HYDROTESTING

Water used to hydro-test pipelines or vessels should contain 100 to 8,000 ppm PanaX 500™ 50 (0.2 to 7.5 gallons PanaX 500™ 50 per 1,000 gallons water), depending on water quality and length of time the equipment will remain idle.

### PIPELINE PIGGING AND SCRAPING OPERATIONS

Add PanaX 500™ 50 to a slug of water immediately following the scraper (ideally this water volume can be kept to a minimum and contained between the scraper and a trailing pig). Sufficient PanaX 500™ 50 should be added to produce a concentration of 0.2 to 2.0% (0.2 to 1.9 gallons PanaX 500™ 50 per 100 gallons water), depending on the length of the pipeline and the severity of biofouling.



**FOR OFFICIAL USE ONLY**

FILE SYMBOL

REGISTRATION NO.

88951-E

**CONFIDENTIAL STATEMENT OF FORMULA ENCLOSED**

DATE SUBMITTED	SUBMITTED BY (✓)	
	APPLICANT	BASIC SUPPLIER
JUN - 5 2012		

**Do Not Write Comments,  
Formula, or Parts of Formula  
on This Envelope**

**NOTE**

It shall be unlawful—for any person to use for his own advantage or to reveal, other than to the Secretary, or officials or employees of the United States Department of Agriculture or other Federal agencies, or to the courts in response to a subpoena, or to physicians, and in emergencies to pharmacists and other qualified persons, for use in the preparation of antidotes, in accordance with such directions as the Secretary may prescribe, any information relative to formulas of products acquired by authority of Section 4 of the "Federal Insecticide, Fungicide, and Rodenticide Act."



\*Pages 100-104 Confidential Statement of Formula may be entitled to confidential treatment\*